

1. An apparatus for latching a door against a frame, comprising:

a door pin extending from the door;

a handle lever rotatably mounted to the door and having a handle pin extending therefrom;

and

a latch bar mounted for reciprocating travel relative to the frame, the latch bar having a first slot having a cam surface adapted to receive said door pin, and a second slot adapted to receive said handle pin,

wherein said latch bar and handle have a first unlatched position where said handle pin enters said second slot and said door pin enters said first slot, and a second latched position where said handle pin contacts said second slot and said cam surface bears against said door pin, and

wherein rotation of said handle from the first position to the second position causes said handle pin to bear against said second slot, moving said latch bar in a latching direction from the first position to the second position, so that said first slot on said cam surface bears against said door pin and urges the door in a closing direction.

2. An apparatus according to claim 1, wherein during movement from the first position to the second position, said handle rotates past a top dead center position so a reaction force retains said latch bar and handle in the second position.

3. An apparatus according to claim 1, wherein a compressible gasket is provided between the door and the frame.

4. An apparatus according to claim 3, wherein said gasket is compressed by a predetermined amount when said latch bar and handle are in the second position.

5. An apparatus according to claim 1, wherein the door is hinged to the frame at one side of the door, and said handle is mounted to the door at an opposite side of the door from the hinged side.

6. An apparatus according to claim 1, wherein the door is an oven door.

7. An apparatus according to claim 1, wherein said handle rotates about a first axis, and has a handle portion on one side of the first axis, and said handle pin is on the other side of the axis, and wherein said second slot is a substantially straight slot extending substantially perpendicular to the direction of reciprocating travel of said latch bar.

8. An apparatus according to claim 1, wherein said latch bar is biased towards the first position.

9. An apparatus according to claim 1, wherein said handle is biased towards the first position.

10. An apparatus according to claim 1, wherein when said latch bar and said handle are in the first position, said door pin is unobstructed by said first slot so that the door is unlatched.

11. An apparatus according to claim 1, wherein when said latch bar and handle are in the second position, said door pin is obstructed by the first slot so that the door is not latched.

12. An apparatus for latching a door against a frame, comprising:

a first engagement means extending from the door;

a second engagement means mounted to the door frame and cooperating with said first engagement means, said first and second engagement means movable between a first position where the door is unlatched and a second position where said engagement means latches the door closed; and

actuating means for actuating the second engagement means to move between the first and second positions, the actuating means including a rotating handle having a handle pin extending therefrom that contacts a slot movable with the second engagement means to move the second engagement means from the first to the second position when the handle is rotated.

13. An apparatus according to claim 12, wherein said handle rotates past a top dead center position so that a reaction force retains said second engagement means in said second position.

14. An apparatus according to claim 12, wherein a compressible gasket is provided between the door and the frame.

15. An apparatus according to claim 12, wherein said handle rotates about a first axis, and has a handle portion on one side of the first axis, and said handle pin is on the other side of the axis, and wherein said second slot is a substantially straight slot extending perpendicular to the direction of reciprocating travel of said latch bar.

16. A method for latching a door against a frame, comprising the steps of:
inserting a door pin mounted to the door into a first slot on a latch bar mounted to the frame;
inserting a handle pin mounted to a handle into a second slot on the latch bar; and
rotating the handle in a first direction so that the door pin urges the latch bar in a first direction so that the first slot cammingly contacts the door pin to urge the door into a latched position.

17. A method according to claim 16, wherein a compressible gasket is provided between the door and the frame.

18. A method according to claim 16, wherein said handle rotates about a first axis, and has a handle portion on one side of the first axis, and said handle pin is on the other side of the axis, and wherein said second slot is a substantially straight slot extending substantially perpendicular to the direction of reciprocating travel of said latch bar.

19. A method according to claim 16, wherein the step of rotating the handle further comprises the step of rotating the handle past a top dead center position so that a reaction force retains the latch bar and handle in the latched position.

20. A method according to claim 16, further comprising the steps of:
rotating the handle in a second direction opposite the first direction so that the door pin engages the latch bar in a second direction so that the first slot releases the door pin.